



## MEMORANDUM

**TO:** Mayor and Council Members

**FROM:** Jorge L. Morales, P.E., CFM, Director, Watershed Protection Department  
Robert Spillar, P.E., Director, Austin Transportation Department

**DATE:** May 13, 2021

**SUBJECT:** Status Update - Monitoring & Sources of Trash in Creeks (Resolution No. 20200123-108)

The purpose of this memorandum is to provide interim updates and outcomes related to Council Resolution No. 20200123-108. This resolution, in part, directed the City Manager to prepare a study with recommendations to address litter problems in Austin's waterways.

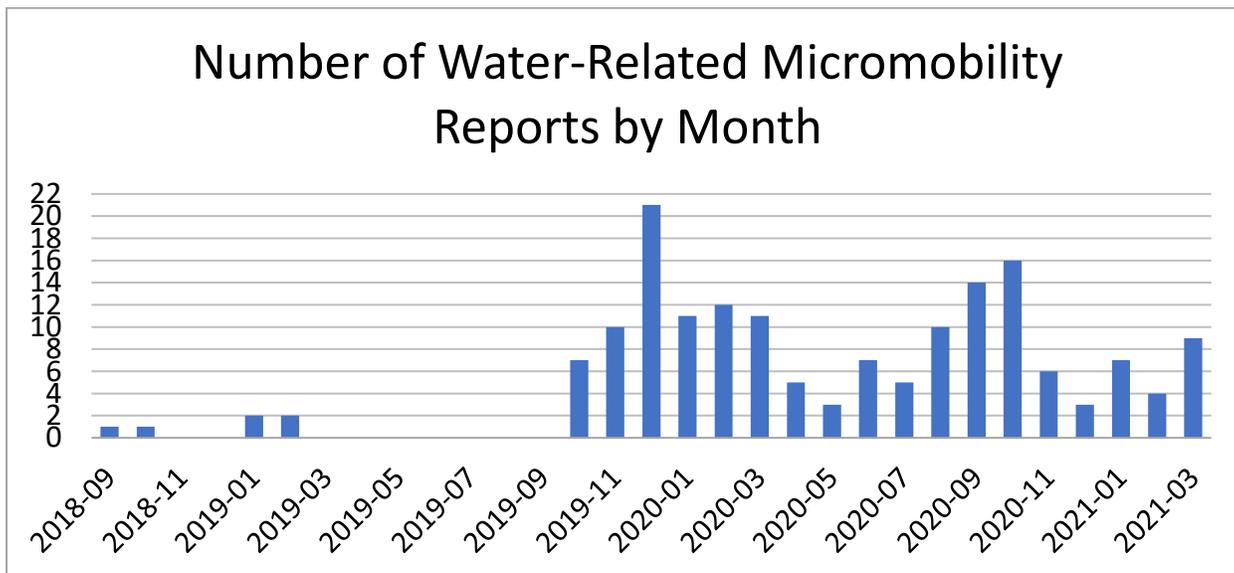
Progress on the Trash In Creeks study since the last update on [November 4, 2020](#) has focused on development of a Quality Assurance Project Plan (QAPP) that ensures a reproducible and statistically relevant study and field testing of modified experimental methods. The study will begin implementation in spring 2021 and is designed to enable analysis of the quantity, type, composition and accumulation rates of trash at key locations representative of known encampments and three land use categories (Single Family Residential, Multi-Family Residential and Commercial). The effort will include over a hundred sites, some of which will be sampled more than once over the survey period to assess accumulation rates. Data collection will include categorization and composition of trash at the different site types across all Council Districts. The results of the study, anticipated to be presented in a final report in June of 2022, will provide characterization of trash in creeks, statistical comparison of encampments and land use sources, and relative distribution and accumulation rates of trash in Austin's watersheds.

Staff from the Watershed Protection Department (WPD) has also modified the schedule for Objectives 2 and 3 of the original workplan presented to council in [March 2020](#) primarily due to Covid-related delays and complications (e.g. non-representative social and trash dynamics). The data collection component of the Trash In Creeks study (Objective 2) has been extended from October 2021 to June 2022. Following the development of the first two objectives, WPD staff has elected to utilize in-house expertise instead of outsourcing the benchmarking research (Objective 3) which will reduce projected costs and provide actionable recommendations aligned directly with the Trash In Creeks study. The modified workplan is included as an attachment to this update.

WPD is working with Austin Resource Recovery (ARR) to initiate the Clean Creeks Program. ARR developed this program to help recover litter from impacted creeks around the City of Austin. Efforts have been delayed due to Winter Storm Uri. ARR anticipates having staff hired in the next few months to start field work for this program. In addition, ARR and WPD staff are currently evaluating proposals for several programs related to education, cleanup, and beautification services (e.g. Neighborhood and Community Cleanups, Street Stewardship, Lady Bird Lake Cleanups, Creek Stewardship, LBL Shoreline Stewardship), which will expand public awareness and involvement related to trash in our environment.

During the past year WPD crews removed less trash from Lady Bird Lake and lower Waller Creek than in previous years due to pandemic-related staffing changes. In FY21, however, WPD increased funding of the Work Force First program by an additional \$223,000 (total contract amount = \$825,000) to get a dedicated 7-person contract crew that will focus on deferred maintenance in WPD waterways including the removal of trash. This effort began on March 8, 2021 and has removed 18,000 lbs. of trash to date. Finally, the department partnered with Enterprise Professional Services Incorporated to facilitate cleanups related to encampments within drainage infrastructure and waterways. This effort was approved by Council on March 4, 2021 and the first cleanup with this contract will begin May 13, 2021.

Furthermore, Austin Transportation installed special signage and currently maintains active geofences to prohibit micromobility device parking on bridges and by waterways to limit exposure of illegal dumping of devices. To streamline reporting and retrieval of devices from waterways, in August 2020, Austin Transportation went live with 311-mobile app modifications so that community members can report micromobility devices in waterways directly to licensed shared mobility service providers. In addition to reports submitted by the community, parking enforcement officers patrol and report micromobility issues daily through the 311-mobile app. The first quarter of the 2021 calendar year recorded 42% fewer reported waterway issues compared to the same period in 2020. Due to the external circumstances from COVID-19 and Winter Storm Uri, shared mobility services have experienced lower ridership which may have also contributed to the decrease in reported waterway issues.



WPD continues testing of investigation tools (drones, boats, divers, etc.) to conduct proactive reconnaissance of submerged micromobility devices and other trash in Austin waterways. In April 2021, WPD partnered with the Austin Fire Department RED Team to test the survey capabilities of drone rescue boat EMILY, equipped with side-scan sonar technology, on Lady Bird Lake. The pilot survey showed preliminary evidence of multiple micromobility devices below the 1st St. bridge. WPD will develop a survey plan to perform additional underwater searches with AFD and appropriate stakeholders.

Should you have any questions related to the upcoming study on litter in Austin’s waterways, please contact Mateo Scoggins, Program Manager III, Watershed Protection Department at 512-974-1917.

cc: Spencer Cronk, City Manager  
Rey Arellano, Assistant City Manager  
Gina Fiandaca, Assistant City Manager  
Mike Kelly, P.E., Assistant Director – WPD  
Chris Herrington, P.E., Assistant Director - WPD  
Susana Herrera, Acting Division Manager – WPD  
Jason JonMichael, Assistant Director- ATD  
Jacob Culberson, Division Manager – ATD

Attachments:  
Trash In Creeks Workplan

# Project Work Plan

<b>Project Name</b>	Trash sources, types and pathways to creeks (Trash in Creeks).
<b>Section Program(s)</b>	Applied Watershed Research
<b>Timeline</b>	March, 2020 – June 2022
<b>Staff Involved</b>	Mateo Scoggins, Andrew Clamann, Todd Jackson, Lauren Parrish

## I. Problem statement

Austin’s lakes, rivers, creeks, and springs are a cherished natural resource that distinguish Austin and provide immeasurable quality of life, health, ecological, and economic benefits. The exceptional value the Austin community places on our rivers is reflected in Imagine Austin’s Environment and Water priority programs. Trash and other physical contaminants are a dynamic pollutant, entering constantly into the stormwater pathway from anywhere in the watershed, and moving at unknown rates, with unknown effects on the health of the overall system. Although there are a wide variety of litter and trash related programs and policies, including Watershed Protection Department routine monitoring of trash, there has never been a comprehensive study of trash dynamics in our watersheds to understand the sources, quantities, and pathways of trash that moves from our uplands to our creeks and receiving water bodies.

## II. Task Outline

WPD would like to initiate a roughly 2-year study that would be broken down into 3 primary components:

**Objective 1:** Complete a background study of currently active programs and policies related to litter and trash in Austin’s waterways and analyze available data related to spatial and temporal patterns.

Task	Deliverable	Start Date	Finish Date
Review and compile all currently active programs and policies related to litter and trash in Austin’s waterways, including funding and resources currently or potentially available.		03/01/2020	06/01/2020
Compile and analyze all available data related to spatial and temporal patterns of litter and trash.		06/01/2020	08/31/2020
Writing a background report that includes an inventory and review of current COA and external partners efforts with respect to litter and trash in Austin watersheds and a high-level summary of available data, trends, and maps.	<a href="#">Background Report</a>	03/01/2020	09/30/2020

**Objective 2:** Develop and implement a field-based empirical study of trash dynamics in Austin’s watersheds that will represent the full range of spatial and temporal variation.

Task	Deliverable	Start Date	Finish Date
Planning of the study. Development of appropriate sampling locations, field collection methods, and statistical analysis to use within the project.	Quality Assurance Project Plan	12/01/2020	5/15/2021
Data Collection.		5/15/2021	4/15/2022
Statistical analysis of collected data and writing the associated report which will include volume, type, source, and pathways of trash in creeks from representative locations around Austin.	Study Report	04/15/2022	6/30/2022

**Objective 3:** Benchmark trash and litter related studies, best practices, programs and policies in peer cities around the country to understand the range, scope, and reach of the problems and potential solutions that are available.

Task	Deliverable	Start Date	Finish Date
Staff to perform benchmarking study of best practices, programs and policies in peer cities around the country and develop a list of Austin-specific trash and litter solutions based on results in Objective 1 and developing data from Objective 2		5/15/2021	9/15/2021
Staff to benchmark and analyze costs and resources needed to implement the trash and litter solutions from the first phase of this benchmarking study.		9/15/2021	1/15/2022
Compilation of a final report that will integrate the research and Trash In Creeks study, including estimated costs and time scales for implementation of Austin-specific solutions.	Final Report	1/15/2022	6/30/2022

### III. Resources

1. Background Report:
  - This will be researched, analyzed, and published using current WPD staff by re-prioritizing time and resources. No additional funding requested.
2. Study of watershed trash and litter dynamics in Austin watersheds:
  - This will be researched, analyzed, and published using current WPD staff by re-prioritizing time and resources with the assistance of a Full Time Temporary employee. No additional funding requested.
3. Final Report:
  - This will be researched, analyzed, and published using current WPD staff by re-prioritizing time and resources with the assistance of a Full Time Temporary employee. No additional funding requested.

### IV. Network folder

Sharepoint: [https://cityofaustin.sharepoint.com/sites/TrashInCreeks\\_CIUR\\_QAPP](https://cityofaustin.sharepoint.com/sites/TrashInCreeks_CIUR_QAPP)